INTRODUCTION

The Hanford Site Performance Report provides monthly status for work performed by:

- U.S. Department of Energy, Richland Operations Office (RL);
- Project Hanford Management Contract (PHMC) through Fluor Daniel Hanford, Inc. (FDH) and its subcontractors;
- Environmental Restoration Contract through Bechtel Hanford Inc. (BHI), and its subcontractors;
- Pacific Northwest National Laboratories (Pacific Northwest) for Science and Technology support to the Environmental Management (EM) mission.

Notable accomplishments include the start of operations of Project W-030, “Tank Farm Ventilation Upgrades”; development of four funding cases for the Interim Stabilization Project Plan; certification of 100 drums containing debris waste material for treatment at the Idaho National Environmental Engineering Laboratory (INEEL) Waste Experimental Reduction Facility (WERF) (supports Hanford’s goal to reduce the volume of mixed and hazardous waste subject to storage and treatment); development of a high probability of success budget and schedule for the Spent Nuclear Fuel (SNF) Project; submittal of the B Plant Preclosure Work Plan one year ahead of schedule; release of evaluation reports for both Tank Waste Remediation System (TWRS) Privatization contractors to the public; and a favorable review of the Hanford Safeguards and Security Program by DOE-HQ.

Fiscal year-to-date (FYTD) milestone performance (Enforceable Agreement [EA], U.S. Department of Energy-Headquarters, Field Office, and RL) shows that 131 milestones (86 percent) were completed on or ahead of schedule; 13 milestones (8 percent) were completed late; and 10 milestones (6 percent) are overdue. The overdue milestones are associated with the following six projects: Tank Waste Remediation System (TWRS) (2), Mission Support (4), SNF (1), Waste Management (1), HAMMER (1), and EM-50 (1) and do not share a common cause. Fifteen milestones are identified as forecast late; three of these are EA (two in Environmental Restoration [ER] and one in TWRS). Details can be found in the milestone exception reports in each project section beginning on page VI-1.

FYTD milestone performance statistics do not reflect six Fiscal Year (FY) 1997 milestones that were not completed in the following four projects: Waste Management (3), Facility Stabilization (1), Landlord (1), and EM-50 (1). Of these milestones, which are listed on page A: V-3, five will be completed late and one is proposed for deletion.

OVERVIEW

Significant events occurred in the TWRS Project including the start of operations of Project W-030, “Tank Farm Ventilation Upgrades,” which completes Tri-Party Agreement Milestones M-43-01 (TO1-98-052), “Complete Project W-030, Tank Farm Ventilation Upgrades,” and M-43-01C (T01-98-053), “Begin Operation for Project W-030.” This also satisfies the compliance schedule under the National Emissions Standards for Hazardous

Air Pollutants (NESHAPs) Compliance Order for stacks 296-A-17 and 296-P-26. This was achieved five days ahead of schedule.

Four funding cases for the interim stabilization project plan were developed; Case 4 was submitted and will be discussed with the regulators on April 20. Two Defense Nuclear Facility Safety Board (DNFSB) 93-5 commitments were formally submitted from RL to the DNFSB in March, "High Priority Tank Sampling Analysis Report," (93-05/008 and 93-5/009007). Revision C of the Double Shell Tank Specification was issued (behind schedule) to support DNFSB Commitment 92-04/001 5.2.1a.

The Waste Management Project continues to make significant progress. The 200 Area Effluent Treatment Facility continues to process Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) feed well above targeted rate with no increase to total operating costs. One-hundred drums containing debris waste material generated by the TWRS program was certified in preparation for treatment at INEEL WERF. This effort supports Waste Management's goal to reduce the volume of mixed and hazardous waste subject to storage and treatment. Clean out of the 340 Facility above ground tanks to reduce the solids inventory was successfully completed. Completion of the construction of the new 2706-TB Building will allow the 2706-T Facility to operate independent of the 221-T Canyon and no longer be reliant on the canyon waste transfer system. To date, 988 of 1,800 183-H containers were overpacked exceeding established performance indicators.

To date, baseline schedules for the SNF Project were aggressive, completed activities in parallel, and had a low probability of success. A realistic schedule and budget was developed accounting for technical, construction, engineering and startup uncertainties remaining through project completion. The schedule is to be provided on April 15, and will support establishment of Tri-Party Agreement and DNFSB milestones for the project.

Project W-059, "B Plant Ventilation Safety Upgrade," construction activities are steadily progressing, maintaining approximately one week ahead of schedule status. Other significant progress includes completing deactivation of the B Plant Aqueous Make-Up forty-five days ahead of schedule, deactivating vessels TK-9-1, E-5-2 and E-20-2 on schedule and transmitting the B Plant Preclosure Work Plan to State of Washington, Ecology (Ecology) meeting Tri-Party Agreement milestone M-20-21A one year ahead of schedule.

The delay in the Waste Acid Treatment System (WATS) Phase II and 303K Resource Conservation and Recovery Act field activities continued for a second month. Preparation of a Toxic Air Pollutant (TAP) Permit Notice of Construction was completed and transmitted to Ecology.

PFP continues to recover from the May 14, 1997, Room 40 chemical over pressurization incident, the RL Fissile Material Movement Restriction (FMMR) Readiness Assessment on Group I (lab and vault maintenance) operations, and responding to the PHMC internal

Facilities Evaluation Board (FEB) evaluation. In March, Corridor 10 decontamination was

completed on schedule, the MUX-2 tie-in and Criticality Alarm Panels 5 and 6 horns were tested and declared operable, removal of bulk chemicals was completed, and the lighting on the fourth floor was restored.

The 324/327 Stabilization/Deactivation Project Management Plan (PMP) was delivered on schedule. The successful completion of the PMP represents the culmination of a significant and coordinated planning effort.

Slight progress was made with the B Cell project, which included completion of the quality process review, size reduction (hot work) activities beginning with Tank 119 and the completion of three airlock entries to install a turntable, load out waste and decontaminate the Radiochemical Engineering Cells (REC) airlock. Despite these efforts, the B Cell project continued to slip further behind schedule. Current estimates indicate the work scope associated with the May 1999 Tri-Party Agreement milestone M-89-02, “Complete Removal of Equipment and Mixed Waste from B Cell” is now approximately 10 months behind schedule.

In the Landlord mission area, shutdown of the 200 East Area Powerhouse was completed on schedule; shutdown of the 284WB Package Boiler was completed 11 days ahead of schedule; final Regulatory Disposition of the 300 Area Abandoned Septic Systems was completed two days ahead of schedule; and installation of the Uninterruptable Power Supply (UPS) in the 3719 Building was completed four months ahead of schedule.

Significant accomplishments have been achieved as Environmental Restoration (ER) activities reached the mid-point of the fiscal year. Remediation of contaminated soil continues to progress in the 100 and 300 Areas. Through March, the soil quantities removed exceeded the planned amount. Five pump-and-treat systems are removing contaminants from millions of liters of groundwater. All are operating beyond planned availabilities. The Columbia River Comprehensive Impact Assessment (CRICA) was completed and transmitted to the regulators. The new Groundwater/Vadose Zone (GW/VZ) Integration Project was established to integrate groundwater issues with below surface remediation work. The GW/VZ project team is comprised of personnel from the Environmental Restoration Contractor (ERC), Project Hanford Management Contractor (PHMC), and Pacific Northwest National Laboratory (Pacific Northwest). Decontamination and decommissioning (D&D) work continued to focus on interim safe storage (ISS) of the C Reactor block, and on decommissioning the highly radioactive 233-S Plutonium Concentration Facility. At the N Basin cleanout project, all high exposure rate hardware has been removed; nearly all of the sediment has been relocated; a shielding installation contractor has mobilized, and plans are in place for water and sediment removal. The project is scheduled for completion in July.

In the Science and Technology mission area, meetings were held to determine the best approach for conducting the nondestructive examinations (NDE) of the 325 Building’s piping that is to be connected to the new radioactive liquid waste system (RLWS) tank. A plan was devised that will allow successful completion of the needed inspections without

entering Rooms 40/40A airborne contamination areas.

The effort to support the development of a site-wide Polychlorinated biphenyl (PCB) management strategy is on track. A draft Federal Facility Compliance Agreement was developed, and revisions and refinements of the technical aspects continue. This strategy will allow alternate compliance with regulations applicable to the unique Hanford Site situation concerning the presence of PCBs in radiation areas.

In Mission Support Project, budget formulation and the development of the Site Integrated Priority List progressed on schedule. Implementation of the PHMC-wide scheduling system is behind schedule and corrective actions are being implemented. Work continued on refining and combing the three-year (FY 1998, 1999, and 2000) critical few mission goals with existing management and waste product metrics to form the “Balanced Scorecard.” These were then tied to the Hanford Strategic Plan success indicators. A path forward to support DOE-HQ’s Integrated Planning, Accountability, and Budgeting System - Information Systems (IPABS-IS) was developed in anticipation of a yet to be provided statement of DOE-HQ requirements to meet the DOE-HQ reporting commitments by October 1,1998. Significant support was provided to the development and path forward transition of the new Hanford business management system. This system will replace an older financial system, invoicing system, as well as incorporate business management practices including the use of a code of accounts.

Site Systems Implementation continued developing the site systems analyses. The projected completion for the initial model is July 1998. This will allow the model results to be validated during the MYWP development process and to be used with the final MYWP approval. Work is continuing on the improvement of the data quality in the Hanford Site Technical Database (HSTD) using the criteria developed last year. Efforts continue to complete approval of the reengineering project specifications portion of the Environmental Management (EM) Site Specification. The SNF Project specification is approved.

In the Environmental Support subproject, a concurrent RL/Contractor review of the Class 1 modifications of the Hanford Facility RCRA Permit was completed and comments incorporated. A revised Notification of Dangerous Waste Activities (Form 2) was prepared as part of a request to cancel the RL 3000 RCRA Site Identification number. Support was provided to the Hanford Site Air Operating Permit public review. The analytical data for all of Hanford's radioactive effluents was compiled and validated for electronic transmittal of the EIS/ODIS Report to INEEL (the location of DOE-HQ's nationwide database). This report provides the radioactive discharges, in curies, for each airborne and liquid discharge point at Hanford. Considerable progress has been made in coordinating timely identification and removal of contaminated tumbleweeds.

In the Public Safety and Resource Protection subproject, the 1997 climatology document, “Hanford Site Climatological Data Summary 1997, With Historical Data,” was completed two months ahead of schedule.

Hazardous Waste classes at the Hazardous Materials Management and Emergency Response (HAMMER) Volpentest Training and Education Center were attended by 342 students (1,838 students have been trained fiscal-year-to-date [FYTD]). One hundred twenty-nine other classes were held in March, with a total of 1,369 students attending. A total of 5,634 students have been trained FYTD (excluding Hazardous Waste classes.) Forty-three people toured the HAMMER facility during March. In addition to the HAMMER facility day rates, student day rates were developed for use by external customers. The student day rate will facilitate mixed classes, which contain Hanford Site students and also non-Hanford Site students. Facility day rates will be reserved for customers who wish to commit up front in a HAMMER user agreement to the fixed facility day rate, despite the actual number of students.

In the Regulatory Unity (RU) mission area, evaluation reports of both TWRS Privatization contractors were released to the public on March 27. Both the BNFL Inc., (BNFL) and Lockheed Martin Advanced Environmental Systems (LMAES) Standards Approval (SA) Packages were approved subject to completion of conditions. Work on the program description document, “Corrective Action/ Enforcement Action Program Description,” was completed. The document describes the approach that will be taken by the RU regarding the identification, tracking, and verification of contractor corrective actions taken in response to nuclear, radiological, and process safety issues.

The Advanced Reactors Transition (ART) mission area continued to make significant progress in March. Technical accomplishments included completing the FFTF Standby Work Phase 98-1, including formal report, HNF-2252, “Reactor Vessel Head Mounted Equipment Testing.” The Open Test Assembly (OTA) Shear Project is continuing its transition from development and design to fabrication. Good progress continues on all phases of the NE Legacies deactivation work. The Performance Expectation Plan (PEP) for preparation of the Annual System Assessment Reports and Component Status Reports for Standby was completed and the PEP to Characterize the Plutonium Recycle Test Reactor (PRTR) Fuel Transfer Pit was completed five weeks ahead of schedule.

ACCOMPLISHMENTS

- Submitted technical justification document revision, HNF-2337, Rev. 1, “High Priority Tank Sampling and Analysis Report,” on March 24, seven days ahead of schedule. This completes DNFSB Commitments 93-5/008 5.5.6.1a and 93-5/009.007 5.6.3.1.g (T01-98-160).

- Submitted plan to address Tank 241-SY-101 level growth issue.

- Delivered realistic schedule and budget for SNF.

- Completed B Plant Preclosure Work Plan and submitted to Ecology one year ahead of schedule.

- Increased Effluent Treatment Facility fiscal-year-to-date CERCLA feed processing efficiency (70 gpm versus targeted 50 gpm).
- Overpacked 988 of 1,800 183-H containers exceeding established performance indicators.
- Established Groundwater/Vadose Zone Integration Project.
- Transferred 105-DR Large Sodium Fuel Facility to BHI as planned.
- Received favorable review of Hanford Safeguards and Security Program by DOE-HQ.

COST PERFORMANCE ($M):

	BCWP	ACWP	Variance
Total Hanford Projects	$ 537.1	$ 515.0	$ 22.0 *

*Rounding

The $22 million (4.1 percent) favorable cost variance is within established thresholds and is attributed to the PHMC $24.5 million passback.

SCHEDULE PERFORMANCE ($M):

	BCWP	BCWS	Variance
Total Hanford Projects	$537.1	$573.3	($36.2)

The $36.2 million (6.3 percent) unfavorable schedule variance is primarily attributed to the following four projects: TWRS ($10.0 million), SNF ($15.4 million), Facility Stabilization ($5.8 million) and ER ($4.1 million).

The majority of the TWRS unfavorable schedule variance is attributed to resources being diverted to the Readiness-to-Proceed (RTP) effort, delay in sampling due to extensive dome load analysis requirements driven by the Basis for Interim Operation (BIO), and delays in Project W-314, "Tank Farm Ventilation Upgrades" master pump shutdown design activities. Other factors include delays in initiating feed process system definition work, retrieval system definition work on hold pending reevaluation of work scope, and a slow construction start on Project W-320. Finally, Immobilized Waste BCR TWR-98-043 for the 4.5 meter canister is still pending.

The SNF unfavorable schedule variance is due to the MCO Sealing Strategy. Other contributors include delays to construction due to NOC permits and Cold Vacuum Drying Facility design changes.

The Facility Stabilization unfavorable schedule variance is attributed to delays with the B-Plant Canyon deactivation, 324 B-Cell activities and the PFP FMMR.

The ER unfavorable schedule variance is due to the discovery of additional plumes at the liquid waste remediation sites in the 100 Areas, a delay I start of the C Reactor fuel storage basin demolition while regulatory requirements were addressed, and elevated derived air concentrations plus more extensive safety documentation delayed the start of the 233-S Demolition Project Operational Readiness Review.

ISSUES

1) **Tank 241-SX-104.** Anomalous level readings on Tank 241-SX-104 resulted in an extensive investigation to determine if the tank is leaking.

   Strategy/Status: A review of the delta level/delta pressure (DL/DP), installation of a video camera, and dry well testing is complete. Preliminary findings are that Tank 241-SX-104 is not leaking; additional analysis to be completed in April.

2) **Tank 241-SY-101.** This tank is exhibiting a slow rise in the surface level. Gas is most likely accumulating in or under the floating crust; current tank surface level response to mixer pump operation is not consistent with behavior assumed in safety analysis.

   Strategy/Status: A USQ was declared on February 26. The path forward is proposed in BCR TWR-98-060 and the detailed plan that is in progress.

3) **Potential Noncompliance with Hazardous Waste Regulations (RCRA)**. There is a potential noncompliance with the Tri-Party Agreement with respect to addition of waste to single shell tanks by transfer line flushing. This may result in a delay in saltwell pumping (Tri-Party Agreement Milestones M-41 series).

   Strategy/Status: Saltwell pumping has been discontinued pending resolution. Discussions with RL and Ecology are in the process of being initiated.

4) **Working to low-confidence schedule.** There is cost growth with no contingency and design changes continue to impact schedule.

   Strategy/Status: A realistic schedule and budget were developed and will be discussed with the regulators. Alternate funding sources are being pursued, and a manager assigned to manage technical issue closure.

5) **PFP FMMR.** The self-imposed restriction has been in effect 15 months. Affected activities include cementation of bulk plutonium-bearing materials, thermal

stabilization of oxides, and Segment #4 duct terminal clean out. Cost and schedule impacts are expected as a result of the work restriction.

Strategy/Status: The ten-day RL Readiness Assessment of Phase I was completed and Phase I was declared acceptable for restart. Six findings and 13 observations were identified. The formal restart plan has been submitted. A plan of action is being prepared to identify scope and depth of the Phase II Operational Readiness Review.

6) **Complete Removal of Equipment and Mixed Waste from B Cell (M-89-02).** Although fire hazards analysis compliance requirements for combustible material loading limits have been met, the inability to remove grout containers from B Cell has further delayed this project, which is now ten months behind schedule. Successful completion of Tri-Party Agreement M-89-02, due May 1999 will not be achieved.

Strategy/Status: The quality process review was completed. Size reduction in the cell commenced with Tank 119 and other larger cell debris. The quality process plan and ALARA reviews were completed for loading/shipping the 3-82B Cask from the 324 Building to the 200 Area Low-Level Waste Burial Grounds. Three airlock entries were completed to install a turntable, load waste and decontaminate the REC airlock.

KEY INTEGRATION ACTIVITIES

The following are the key integration activities that are currently underway and cross project lines. These activities are being addressed by inter-discipline and inter-project groups.

- **Issue:** Continued 2727-W operations, maintenance and surveillance.
  Interface: TWRS/Waste Management
  Status: Discussions underway.

- **Issue:** Canister Storage Building (CSB) availability for TWRS.
  Interface: TWRS/SNF/Waste Management
  Status: Defining interfaces; TWRS will utilize separate cask handling equipment; developing detailed operating schedule to define construction windows.

- **Issue:** Exchange 46 inactive waste sites.
  Interface: ER/TWRS/Systems Engineering
  Status: Site walkdowns and TWRS exchange cost estimate is complete. Sites prioritized for transfer; awaiting surface contamination surveys.

- **Issue:** BNFL sample residue waste returns.
  Interface: Waste Management/TWRS
  Status: BCR in process requesting $306,000 to dispose of waste.

- **Issue:** 324 Facility Shipments to Low-Level Waste Burial Ground.
  Interface: Waste Management/Facility Stabilization
  Status: Obtaining low-level waste documentation and approvals prior to shipment.

- **Issue:** N Basin Fuel Transfer to 327 Facility
  Interface: Facility Stabilization/SNF/RL/BHI/Ecology/WDOH
  Status: Final shipment is expected May 1, 1998; ~60 pounds of additional fuel was found, which may increase remaining shipment to six canisters (approaching limits of 327 Facility).

- **Issue:** TWRS sludge settle and decant testing.
  Interface: Facility Stabilization/TWRS/Pacific Northwest
  Status: Memorandum of Understanding (MOU) signed. Tasks will be conducted in 324 Building C-Cell during FY 1998 and FY 1999.

- **Issue:** 324 Building SNF removal.
  Interface: SNF/Facility Stabilization
  Status: Joint contractor team evaluating schedule changes.

- **Issue:** Vaults for glass canisters.
  Interface: SNF/TWRS
  Status: Preparing programmatic agreement to define interface. Reviewing for impacts of SNF schedule revisions.

- **Issue:** N Basin fuel chips.
  Interface: SNF/ER
  Status: First shipment completed in January. Second shipment on hold pending certification of first shipment.

- **Issue:** Fuel movement from 400 to 200 Area ISA.
  Interface: SNF/Acceptance Review Team (ART)
  Status: NOC for 200 Area ISA was coordinated with ART; approval needed by April 30.

- **Issue:** K Basins deactivation integration.
  Interface: SNF/Facility Stabilization
  Status: Integrating Tri-Party Agreement milestones into SNF Project. BCR approved to transfer scope.

- **Issue:** Rail car deactivation.
  Interface: SNF/Waste Management/Facility Stabilization
  Status: Identifying alternatives for 100-K railcar wastes.

- **Issue:** Disposition of sodium coolant.
  Interface: ART/Facility Stabilization/TWRS/Waste Management
  Status: TWRS milestone M-50-03 confirmed advanced pretreatment will not be required. If FFTF is shutdown, the baseline will be developed considering the use of FFTF sodium to produce sodium hydroxide for TWRS use.

- **Issue:** Railroad shutdown.
  Interface: Landlord/TWRS/Waste Management/Facility Stabilization/ART/SNF
  Status: On schedule for September 30, completion.